

Research Libraries Today: Current Status and Perceived Needs¹

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Lizabeth (Betsy) A. Wilson
Dean of University Libraries
University of Washington
Seattle, Washington, USA

Good morning! Thank you Donatella and Lee for helping to frame the workshop. The work before us is indeed tantalizing, and I look forward to two engaging days as we envision the global research library. As my small contribution to GRL 2020, I have been asked to paint a picture of research libraries today and pull in the discussions held at the first GRL 2020, held last fall outside of Seattle in Woodinville, Washington.

Research, scholarship, and discovery have been transformed by the Internet and communication technologies across all sectors on a global basis. The rapid dissemination of findings, the creation of new tools and platforms for information manipulation, and open access to research data have rendered the more traditional institution-based library approaches to providing access to information inadequate and outmoded. As our universities become increasingly global—both in their aspirations and in reality—so must our libraries.

Look to the Past

Looking to the past is always a good place to start when envisioning the future. Early in the last century, Henry Suzzallo was the president of the University of Washington, a fledgling institution way out in a rainy wilderness called Seattle in the state of Washington on the northwest coast of the United States. President Suzzallo's vision was to build a "university of a thousand years."

He knew that all great universities had great libraries, so his first action was to create a library to rival those in Europe. He called it a "cathedral of books." Up from the empty land, arose a grand gothic structure with the Olympic Mountains and the Pacific Ocean off in the distance. Suzzallo's "university of 1,000 years" had its cathedral.

Since then, the Suzzallo Library has become known as the "the soul of the university" and is a beloved symbol for Huskies around the world. Unfortunately, Suzzallo's "cathedral of books" ultimately would get him fired for having aspirations that the then Governor of Washington viewed as foolish and extravagant.

¹ Portions of this talk are excerpted from the author's paper "Local to Global: the Emerging Research Library" to be published in *Journal of Library Administration*.

President Suzzallo knew what the 20th century library should be—a magnificent building of inspirational architecture filled with the finest books from all around the world. It was all so simple then. Suzzallo had a clear vision.

Library of the Future

Fast forward and one thing remains the same. The future of the university is inseparable from the future of the library. James Duderstadt, president emeritus of the University of Michigan, has said, the library of the future may in fact *predict* the future of the university.

The networked environment and the accelerated pace of change have transformed libraries and higher education. Easy-to-use search engines providing access to a vast array of content have changed our daily information seeking behavior and expectations. Wonderful opportunities now exist to create digital content from our stacks and make widely available what had once been locked away in our special collections.

Libraries have been reshaped into flexible learning spaces to meet a variety of user needs—collaborative and individual study, hi tech hi touch instruction, and caffeine and chatter. Starbucks may well have had more impact on reshaping libraries than the Web. Howard Schultz, Starbuck’s CEO and Seattle’s hometown boy, will be glad to hear that.

Libraries and librarians have been persistent agents of change and reflection. They have been innovative, creative, and have brought technology into the service of learning and research. In many ways, we have collectively put the 20th century library of Henry Suzzallo out of business. But the same time, we can’t fully articulate the shape of the 21st century library. However, we do know it won’t be merely a “cathedral of books.”

Our future will be determined in large part by how we collectively respond to the networked world and anytime, anyplace expectations and realities. Education and research demands a complex, integrated, and increasingly global information infrastructure. Universities like ours will be measured by how well they disseminate knowledge. Universities will need to find new ways to share intellectual effort in order to advance discovery and educate students for a future we can’t even begin to imagine.

During this transformation, the mission of the library will remain constant—to meet the information needs of the community through the gathering, organization, preservation, creation, and dissemination of knowledge. The tactics and strategies have and will continue to change.

Like my fellow library directors around the globe, I grapple with the shape and form of the emerging library every day. As we look to the future, we ask:

- What do and will our faculty and students value? What will the scholar in 2060 expect us to have selected and preserved? Blogs, mash-ups, research data?
- How can we support the expanding university mission in a technology enabled world?
- Where should we invest when we have limited resources, conflicting priorities, proliferating publics, and often competing clientele?

Preferred Future

In my preferred future, faculty, students, and researchers can access and use the information they require when and where they want it around the world, and in the format most appropriate to their need. Better yet, make that a future where libraries anticipate their needs, and are woven into the fabric of the search for knowledge, and into the *flow* of discovery and research.

I envision a future in which our physical and virtual libraries are trusted, robust, and engender human understanding. I envision a transformed scholarly communication system that is both accessible and affordable, regardless of where one lives on the globe or one's institutional affiliation. I envision digital libraries that have reached their potential to improve research productivity and facilitate deep learning. I envision a future in which our faculty and students will be as information fluent as they are reading and writing literate, and technology competent.

What are other colleagues saying about the current state and future of the research library? Let me share a few insights.

Lee Zia, of the National Science Foundation in the United States, says in a recent paper delivered at a Council of Library and Information Resources conference:

To navigate successfully the circumstances produced by the amazing explosion of access to unfiltered data and the changing relationship of people to knowledge, the library with its rich traditions of attention to stewardship, preservation, quality, provision of at least a proxy for the certification of authority, will necessarily play an important role of collaboration with its constituencies: end users and content providers.²

Kate Wittenberg, director, Center for Digital Research and Scholarship, at Columbia University, also speaks to the importance of collaboration and new roles for research libraries.

She believes that the research library and its staff have the critical understanding of how to organize, store, and deliver information. In addition, research libraries have tools that add value to digital content and a robust and stable information technology infrastructure. In her view, the research library is in the position to provide both the platform and skills needed to enable the creation of new forms of scholarship as well as disseminate the resulting content to a global audience.³ Indeed, Wittenberg underscores the need for a global and distributed infrastructure.

² Zia, Lee L., "Leveraging Digital Technologies in Service to Culture and Society: The Role of Libraries as Collaborators," presented at Core Functions of the Research Library in the 21st Century, Washington, D.C., February 27, 2008. URL: < <http://www.clir.org/activities/registration/08R21.html>>.

³ Kate Wittenberg, "The Role of the Library in 21st Century Scholarly Publishing," presented at Core Functions of the Research Library in the 21st Century, Washington, D.C., February 27, 2008. URL: < <http://www.clir.org/activities/registration/08R21.html>>.

Rick Luce, director of libraries at Emory University in Atlanta and formerly of the Los Alamos Laboratories, indicates that the emergence of eResearch, with its associated large data repositories, herald not only a new way of doing research, but also a challenging new world for research libraries. Luce indicates that the traditional roles played by the library:

...must be augmented by new capabilities in automatically describing, annotating and manipulating a wide spectrum of collaborative, data-intensive information resources. ...A powerful user-centric infrastructure that supports collaborative multidisciplinary science is now required. A grand challenge now faces us: the next generation of research infrastructure requires dynamic data repositories.⁴

The research library of the 21st century will require collective investment, and I suggest three areas for focus:

- Collaboration
- Building a culture of assessment
- The global research library

Collaboration

Collaboration and collective action will be defining characteristics of the 21st century library. We can no longer feel complacent about the artificial boundaries between our libraries. The most urgent issues—scholarly communication, digital libraries, data repositories, and information literacy—require the contributions of many.

Libraries around the world will be even more interdependent and intertwined than ever before—not just with each other, but with stakeholders, information providers, knowledge creators, and users. This will require a new cross-sector and global orientation. We must move as much as we can to the “network level” (with a nod of thanks to Lorcan Dempsey of OCLC).⁵ We must do only at the local level what can’t be done collectively or doesn’t make sense to be done at the global level.

Collaboration is not simply desirable, it is imperative. In all but the rarest of cases, one is too small a number to solve problems. As one wise person said, “None of us is as smart as all of us.”

Collaboration is needed to reframe scholarly publishing and dissemination. Collaboration is fundamental to a digital library that has purpose and value. Collaboration will help us engender an information smart global community, which I am convinced is a precondition for a saner and more secure world.

Collaboration is a choice. It can’t be mandated. It’s hard work. It’s fragile. Collaboration doesn’t come naturally. Collaboration is different from cooperation or coordination in vision and relationships; structure; authority and accountability; resources

⁴ Richard E. Luce, “A New Value Equation Challenge: The Emergence of eResearch and Roles for Research Libraries,” presented at Core Functions of the Research Library in the 21st Century, Washington, D.C., February 27, 2008. URL: < <http://www.clir.org/activities/registration/08R21.html> >.

⁵ Lorcan Dempsey, “Libraries and the Long Tail: Some Thoughts about Libraries in a Network Age,” *D-Lib Magazine* (April 2006). URL: < <http://www.dlib.org/dlib/april06/dempsey/04dempsey.html> >.

and rewards; and people.⁶ Budget structures, administrative lines, geographic boundaries, and reward systems can create barriers to collaboration.

Collaborators learn how to cross boundaries and have a high tolerance for ambiguity. Innovative organizations pay attention to supporting the skills and providing the latitude needed in collaboration.

Culture of Assessment

Now onto my second area for collective investment: assessment. When we think about the culture of libraries, one can conjure up many images. The culture of the book. The culture of knowledge. The culture of control. The culture of equal access. The culture of community. The culture of memory. The culture of technology. The culture of change. Today, I ask that you think about research libraries within a culture of assessment.⁷ What is a culture of assessment and why is it important to the future?

A culture of assessment is an environment in which decisions are based on facts, research and analysis, and where services are planned and delivered in ways which maximize positive outcomes and impacts for library clients. A culture of assessment is an integral part of the process of change and the creation of the 21st century research library. In our environment of continual change and new opportunities, we need to focus explicitly on the user. I believe we must invest in continuously assessing the landscape, listening to our users, and looking for places where we can make a difference in connecting people with knowledge.

What does this mean for our individual libraries? At the University of Washington, we have become a user-centric organization, explicitly defining who our users were in order to determine if we were meeting and anticipating their needs. We have positioned ourselves to make the best use of resources, to select the best from a growing array of options, and to market services realistically. Most importantly, we engaged both staff and users in a decision-making dialog on what new services, collections, information formats, and programs would be introduced and what they will no longer do or provide.

We continue to nurture our culture of assessment and dedicate significant resources to gathering and mining robust data about users and their information needs as we shape the emerging global research library.

Our triennial surveys, begun in 1992, provide invaluable information about students and faculty needs and priorities, and the importance of and satisfaction with the Libraries during a period of unprecedented change. We actively listen to our users and actually do something with what they tell us. Surveys, usability testing, environmental scanning,

⁶ For further discussion on lessons learned, see Paul Mattessich, *Collaboration--What Makes it Work: A Review of Research Literature on Factors Influencing Successful Collaboration* (St. Paul, Minn.: Amherst H. Wilder Foundation, c1992) and Murray Shepard, Virginia Gillham, and Michael Ridley, "The Truth is in the Details: Lessons in Inter-university Library Collaboration," *Library Management* (1999): 332-37.

⁷ Steve Hiller, University of Washington Libraries, first used the phrase "culture of assessment" in 1994. He was inspired by Robert Hughes' *Culture of Complain: the Fraying of America* (Oxford University Press: New York, 1993).

LibQUAL, focus groups, and learning outcomes are all part of our toolkit. What have we learned?

- In general, our triennial surveys show that faculty and students are moving rapidly to remote use of online information. Indeed, it is the preferred method for finding and using information needed for work.
- Self-reliance and the ability to perform library-related work without staff mediation are of high importance to our users.
- Information technology and online information resources have enabled faculty and students to be more productive both in research and learning.
- Across all groups (faculty, graduate students, and undergraduates), desktop delivery of full-text resources ranked the highest.
- We learned that for undergraduates *place* is very important.

Our physical facilities are used extensively by students who account for more than 90% of the 4.4 million annual visits. Undergraduates use the library as their primary space for research, course work, individual study, socialization, and group work and presentations. The library is, one might say, the largest and most important learning space at the university, and it is open 24 hours a day.

As an example of our focus group work, we recently worked to understand the information needs of the burgeoning number of bioscientists at our university and in our community.⁸ What did we learn from the focus groups of bioscientists that is pertinent to the work of GRL2020?

- Everyone wants more electronic access. For these individuals, print is dead, really dead.
- The library is seen primarily as an e-journal provider with a big check book.
- Most bioscience faculty don't come to the physical library, but use the virtual library more than ever.
- Article databases are greatly underused.
- There is a great need for personal information management.
- Most with grant support buy what books they need from Amazon because Amazon delivers to their office.
- The transaction cost from discovery to delivery is too high, particularly in time and lost opportunity. There is a need to integrate fragmented systems and processes.
- Bioscience researchers are multi-disciplinary and multi-institutional collaborators. They work with people within UW, across the nation, and around the globe.
- Bioscience researchers are independent and self-sufficient, who rely on external funding for their existence.

⁸ University of Washington Libraries Biosciences Taskforce. URL: <http://www.lib.washington.edu/assessment/reports/>.

These findings have profound implications for global library strategies and where we should focus our energy and resources. And bioscientists represent just one segment of our diverse clientele. We have over fifteen years of data on user behavior and priorities. We use what we learn to make better decisions, allocate and reallocate resources, improve services, and create our preferred future. If you want to learn more, please consult our assessment web page.⁹

I also invite you to attend the Library Assessment Conference to be held in Seattle August 4-8. This international gathering will bring together innovators and practitioners during the best weather Seattle has to offer. I promise blue skies and no rain. For more information see the conference website.

Global Around the World

Now for my third area for investment: the global research library. The global research library is the reason many of us gathered in Washington State last fall, and why we are gathered here today.¹⁰

Research is increasingly global. One researcher told me that she works with collaborators in 5 other countries and in more than 10 institutions. Researchers tell us that they are having difficulty managing the vast amounts of data they are generating. Many are suffering from an overwhelming amount of information.

The world of research and discovery and libraries has changed fundamentally—with all the risks, opportunities, and impediments that come along with profound change. Depending on our collective choices, I believe the role of the research library in 2020 could span a continuum of marginal to transformational. I chose transformational. But there are many questions to answer:

- How would we go about creating this global research library?
- What does it mean to be global?
- What does a global cyberinfrastructure entail?
- What are the elements of the global regulatory and policy framework?
- What are the implications for the libraries workforce?

Some like-minded souls began battling around these questions, and the first Global Research Library 2020 was born. The University of Washington Libraries and Microsoft Corporation jointly convened the Global Research Library 2020 (GRL2020) workshop in Woodinville, Washington, USA on September 30 through October 2, 2007. Many of you joined us in Woodinville, but for those of you who did not, let me bring you up to date.

The goal of GRL2020 was to create a roadmap for the global research library by bringing together a select group of global leaders from different sectors to engage in three days of intensive discussions and presentations. Attendees traveled from Europe, China, India, Japan, Europe, Canada, Australia, and the United States.

⁹ University of Washington Libraries Assessment. URL: <<http://www.lib.washington.edu/assessment/>>.

¹⁰ This section draws from the workshop summary crafted by Stuart Weibel and Ann Ferguson available on the Global Research Library 2020 website. <URL: www.grl2020.net>. A similar summary also was published in *Futures: Microsoft's European Innovation Magazine* (December 2007).

Tony Hey, Corporate Vice President for Technical Computing at Microsoft, set the stage. He suggested that in order for research libraries to play a central role in this increasingly multi-institutional and cross-sector environment, they must find new approaches for how they operate and add value to research and discovery on a global basis. The "framing discussions" at the outset of the workshop focused on a wide array of issues related to understanding and managing the output of global research.

Many global problems--climate change, world-wide health threats, and international economic issues-- require support for the research enterprise that transcends political boundaries, and demands new infrastructure and cooperative frameworks. Participants largely agreed on core value propositions for the Global Research Library that:

- Innovation and knowledge creation rely on sustained availability of information (information drives discovery)
- The creation of public value is central to the mission of global research libraries
- Selection, sharing, and sustainability are longstanding components of library missions, and remain so as library assets transition from paper to digital formats
- Long-term curation of content is critical, and requires focused effort in the development of systems and standards to support them in the long digital future ahead.

It was widely acknowledged in the GRL2020 discussions that the global research library of the future will be an interoperable network of services, resources, and expertise designed to facilitate the process of research and the selecting, sharing, and sustaining of the outputs of research. Infrastructure was broadly interpreted to include telecommunications, protocol standards, computing, electronic publishing, repositories, discovery and delivery services, and instructional services necessary to support rapidly changing skills that support these technologies. Participants agreed that overlapping infrastructures must be integrated and managed within policy frameworks by staff with appropriate skills now uncommon in the field. To the extent that common, interoperable components of such infrastructure can be agreed upon and shared, costs of various dimensions of the enterprise can be reduced and efficiencies increased.

The growing worldwide trend towards Open Access is an example of a kind of *social interoperability* that earned attention from the group. The importance of changes to the business models of scholarly publication and research is recognized as a key to improving the effectiveness of research and learning in the developing, as well as the developed, world. The Web has reduced separation among communities, and research libraries need to exploit these Web 2.0 capabilities to create collaborative environments where public, private, and governmental agencies may find common purpose and mutual benefit.

The GRL2020 group outlined critical impediments that must be addressed if the vision of the global research library of the future is to be realized:

- Funding for research and learning is fragmented and suffers from steep disparities globally
- Intellectual Property and copyright constraints increase friction in the information supply chain

- Complexity of the stakeholder environment impairs interoperability and information flow
- Cross-sector tensions and proprietary perspectives dilute resources and leadership
- Infrastructure deficiencies, especially in developing countries, limit the scope and effectiveness of recognized solutions
- Economic and technological sustainability are problems at all levels
- Skills appropriate to the 21st century information world are scarce in a 20th century workforce
- Disparate political, economic and cultural environments often impede collaboration.

Participants focused on identifying areas where collective leadership could have the greatest impact. But, our work was barely begun.

Final Thoughts

I am so grateful that Donatella and her team volunteered to host us for the second GRL2020. We have much to build on from the first workshop, but there is much work ahead.

I started my presentation today with Suzzallo's vision of a cathedral of books, and it is an appropriate place to end. Let me remind us that we are not the first to wrestle with the future shape of the research library. While much is uncertain, I am confident that the emerging research library will be:

- Both virtual and real
- Flexible and networked
- Multidimensional and integrated, and
- Part of a library ecosystem sustained through collaboration.

But most of all, the research library of the 21st century will be defined by its ability to move effortlessly from local to global and back again. Over the next two days, I am counting on your best ideas and insights as we work to craft a roadmap for the global research library.